

File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: March 16, 1981

SUBJECT: Cyprus Mines Corporation
ID-002540-2

FROM: G. R. Partee, Jr.
Permits Coordinator, I00

TO: Mike Johnston, Chief
New Source Permits Section

Attached are the following amended pages for my 2/23 recommendation:

1. Staff Evaluation, Pages 1 & 2
2. Permit, cover (Page 1) and Page 3 (Att. 4)
3. Facility data insert for Fact Sheet (Att. 5)

These changes resulted from the reviews of my draft by the applicant and by IDHW and other agencies. I have also enclosed letters of comment from Cyprus and USFWS.

Enclosures

cc: Larry Koenig, IDHW-DOE, Boise

STAFF EVALUATION
AND STATEMENT OF BASIS
NPDES PERMIT ISSUANCE

I. Applicant: Cyprus Mines Corporation
 7000 South Yosemite Street
 P. O. Box 3299
 Englewood, CO 80155

 Operating Loc: Challis Idaho
 (Thompson Creek)

 App. No.: ID-002540-2

 App. Rec'd.: April 16, 1980

II. Activities and Sources of Discharges

The applicant (Cyprus), a wholly owned subsidiary of the Standard Oil Company of Indiana, proposes the construction and operation of an open-pit molybdenum mine and concentration mill southwest of Challis (Custer County), Idaho. The proposed mine site is drained by Thompson and Squaw Creeks, tributaries of the Salmon River (see Atts. #1 and #2). The Salmon River at the points of confluence with Thompson and Squaw Creeks has been classified by the State of Idaho as a Special Resource Water (Idaho Water Quality Standards and Wastewater Treatment Requirements, 1980, Section 1-2130) and is protected for all designated uses (except warm water biota). Unspecified surface waters are designated for primary contact recreation or secondary contact recreation as determined by physical characteristics. The streams receiving direct discharges generally have insufficient flow for primary contact recreation.

Discharges and potential discharges to surface waters come from four sources: (1) mine drainage/pumpage, (2) mill process waters, (3) sanitary wastes, and (4) waste pile seepage and runoff. Cyprus proposes to construct a recycling system which will eliminate all discharges except the waste pile seepage and runoff which will be settled for removal of suspended materials prior to discharge.

III. Background

The proposed mine is located on properties managed by the U.S. Forest Service and the Bureau of Land Management and required the approval of those agencies. A draft Environmental Impact Statement (EIS) was made available on July 8, 1980 and a final EIS was published October 31, 1980. The proposed operation will be a "new discharger" as defined in 40 CFR 122.3, but will not be a "new source".

IV. Basis of Effluent Limitations

Ore mining is considered a "primary industry" (40 CFR, Part 122, Appendix A). Effluent limitations for mine drainage and milling wastes based on the application of the best practicable control technology currently available (BPT) have been promulgated at 40 CFR 440.40, et seq. In the present case, however, the provisions of Part 440.40 are not applicable since Cyprus proposes no discharge of either mine drainage or milling wastes. Ground and surface water monitoring downstream from the tailings dam is, however, required by the EIS to assure that the zero discharge (of pollutants) proposed by Cyprus is achieved.

Cyprus proposes two discharges of settled seepage and runoff water from overburden and waste rock dumps (Att. #2). Discharge 001 is to Buckskin Creek and 002 is into Pat Hughes Creek.

Both Buckskin Creek and Pat Hughes Creek are tributaries of Thompson Creek. Surface water quality has been found by numerous investigators to vary seasonally. For example, suspended solids concentrations at two stations on Thompson Creek were found by USGS to vary from 103 mg/l to 1 mg/l over a period of approximately two months in the late summer of 1971 (Att. #3). It is anticipated that effluent limitations of 20 mg/l as a monthly average and 30 mg/l as a daily maximum will be achievable with the proposed settling ponds and will be adequate to protect surface water quality. (Facilities designed to achieve such limitations during periods of normal high runoff can be expected to achieve much better removals during low runoff periods.) In the event that instream monitoring during the initial permit period indicates that the State's WQS turbidity standard may be met only with more stringent limitations, the permit should be modified. The attached draft (Att. 4) includes a caveat to this effect.

The settling ponds proposed will be adequately sized to provide for: (1) detention of anticipated sediments, (2) 24 hour detention of normal spring flows, and (3) detention of all flows from a 24 hour, 1-in-10 year storm event. A spillway will be provided to release flows and prevent dam failure in the event of the occurrence of any lower probability storm. Discharge depth will be variable by means of a multi-port discharge withdrawal pipe.

Leachate tests performed on waste rock samples (reported in the EIS) indicated pH values would fall within the 6.5 - 9.0 range specified by the State's Water Quality Standards for cold water biota (1-2250.04).

No discharges of toxic pollutants are expected although some potential exists and intermittent monitoring will be required. The discharges are not expected to affect any adjacent State's waters. There exists no approved Areawide Waste Management Plan (208 Plan) applicable to the area of the proposed discharges.

Permit No.: ID-002540-2

Application No.: ID-002540-2

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. § 1251 et seq; the "Act"),

Cyprus Mines Corporation

is authorized to discharge from a facility located near Challis, Idaho to the following receiving waters:

<u>Outfall</u>	<u>Receiving Stream</u>
001	Buckskin Creek
002	Pat Hughes Creek

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall be come effective on

This permit and the authorization to discharge shall expire at midnight,

Signed this day of

Director, Enforcement Division

2. In addition to the above referenced effluent monitoring, the permittee shall provide for instream monitoring of turbidity to assure that the State's turbidity criteria (as specified in the Idaho Water Quality Standards and Wastewater Treatment Requirements, 1-2400.01, January 30, 1980) are not violated by the discharges. The limitations on suspended solids specified in A.1 above are believed adequate to prevent severe violations. Future limitations may be based in part on the results of the instream monitoring.

Monitoring of turbidity shall be provided at the following locations:

- Site 1: In Thompson Creek above Buckskin Creek
- Site 2: In Pat Hughes Creek below Outfall 002, but above the confluence with Thompson Creek.
- Site 3: In Thompson Creek below the mixing zone at the confluence of Pat Hughes Creek.

Monitoring shall be performed not less often than:

1. Monthly during "base flow" period
2. Weekly during spring thaw and snow melt (generally April 1-30)
3. Daily during storm events

Samples shall be taken between 1:00 p.m. and 6:00 p.m.

Instream monitoring results shall be reported quarterly (in March, June, September, and December) to the Environmental Protection Agency and the Idaho Department of Health & Welfare at the addresses given in Part II.B below.

3. The permittee shall continue to provide for water quality monitoring in accordance with the program agreed upon by the USFS, BLM, IDHW, and Cyprus, subject to such future modifications as may be mutually agreed upon by the parties.

Cyprus Mines Corporation (7000 Yosemite Street, Englewood, CA.), a wholly owned subsidiary of Standard Oil of Indiana, proposes the construction and operation of an open-pit molybdenum mine and concentration mill southwest of Challis, Idaho (Custer County). The mine site is on land managed by the U.S. Forest Service (Challis National Forest) and the Bureau of Land Management (Salmon District) and is drained by Thompson and Squaw Creeks and tributaries thereof. Thompson and Squaw Creeks are tributaries of the Salmon River which (at the points of confluence with these streams) has been classified as a Special Resource Water by the State of Idaho, Water Quality Standards and Wastewater Treatment Requirements.

Cyprus proposes the construction of a non-discharging "tailings pond" which will receive all mine drainage, mill wastewater, and treated sanitary wastes from the millsite. (Sanitary facilities at the crusher site, located a considerable distance from the concentrator and other mill and office buildings, will discharge to a septic tank/soil absorption system). Carrier water used in milling operations will be drawn from the tailings pond. Runoff and seepage within the pit may be pumped directly to the mill but will otherwise be pumped to the tailings pond. Rather than proposing a discharge from the milling system, Cyprus anticipates a need for an average of 300-400 gallons per minute of "make-up" water.

The discharges proposed by the applicant consist of runoff and seepage from two areas planned for placement of overburden and waste rock. To minimize the discharge of eroded materials, settling ponds will be constructed which will provide for 24 hour detention of the anticipated normal high runoff, storage of settled solids, and retention of the projected 24 hour, 1-in-10 year storm event. The settling ponds are designed to achieve an average of 20 mg/l suspended solids (30 mg/l as a daily maximum) which is believed to be adequate for the preservation of water quality in the receiving streams.

In addition to the limitations on suspended solids, the proposed permit requires that pH (a measure of acidity) be not less than 6.5 nor more than 9.0 standard units in accordance with the State's Water Quality Standards for cold water biota areas. Leachate tests on waste rock indicate these limitations should be met without treatment.

The proposed NPDES permit will authorize discharges from two settling ponds to tributaries of Thompson Creek: Pat Hughes Creek and Buckskin Creek.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
4620 Overland Road, Room 209
Boise, Idaho 83705

February 19, 1981

RECEIVED
FEB 20 1981

Mr. Grover Partee
Environmental Protection Agency
422 West Washington Street
Boise, Idaho 83702

Re: NPDES Permit Application
No: ID-002540-2

Dear Mr. Partee,

We have reviewed the proposed permit for the Cyprus - Thompson Creek Project, Challis, Idaho. We have the following comments.

Our primary concern is that there is no contamination to the receiving waters downstream from the proposed mine site. We note that the ground and surface waters from the tailing dam will be monitored to assure zero discharge of pollutants and that close coordination will be initiated with IDFG, USFS, BLM, and IDHW in all aspects of the proposed action. We are confident that this combined technical cooperation will assure the protection of downstream resources; therefore, we have no pertinent comments to add.

Thank you for the opportunity to have reviewed this application.

Sincerely yours,

Daniel M. Herrig
Acting Field Supervisor

cc: BLM, Boise
(Attn: Karl Gebhardt)
IDFG, Boise
(Attn: Stacy Gebhards)
IDHW-DOE, Boise
(Attn: Larry Koenig)
USFS, Challis
(Attn: Gordon V. Reid)

Cyprus Mines Corporation

Post Office Box 2755
Boise, Idaho 83701
Telephone 208) 345-4234

March 16, 1981

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IDAHO OPERATIONS OFFICE

Grover Partee
Permits Coordinator
U. S. Environmental Protection Agency
Boise, Idaho 83720

Re: NPDES Application No. ID-002540-2

Dear Mr. Partee:

Cyprus has reviewed the draft discharge permit referenced above and offers the following comments:

- 1) Applicant Address:
Cyprus Mines Corporation
7000 South Yosemite Street
Englewood, Colorado 80155
- 2) Cyprus has elected not to construct discharge 002-Unnamed Creek. Please amend the permit to reflect this elimination.
- 3) Discharge 001 is into Buckskin Creek (page 2, IV) not Thompson Creek.
- 4) Page 3, V - Cyprus will agree to monitor for cadmium, copper, zinc, and arsenic on a quarterly basis for the initial five years of operation. Upon renewal of the discharge permit the results from the monitoring may preclude additional monitoring.
- 5) Page 3, VII. The monitoring requirements.
limitations where mill wastes. discharges.
- 6) Attachment #4
001 Buckskin Creek
002 eliminate
- 7) Attachment #4 page 3 no. 3.
As agreed upon, please amend this paragraph to read:
The permittee shall continue to provide for
water quality monitoring. parties.

CYPRUS

Page Two
Letter to Grover Partee
March 16, 1981

- 8) Attachment #4 page 8, no. III
Cyprus is in the process of fulfilling the signatory requirements.
- 9) Attachment #8
Cyprus is in the process of preparing the Water Quality Monitoring Manual.

Per a discussion between you and D. Peace, Cyprus will meet with M. Smith, Idaho State Health and Welfare, Division of Water Quality, to discuss turbidity monitoring and monitoring the Salmon River (attachment #6, page 3, Recommendation 4).

If you have any questions, please contact the Cyprus Boise office.

Sincerely,

A. W. Murphy / *for MM McGee*
M. M. McGee
General Manager

MMM/st

cc: A. W. Murphy